further advantage of this plan is that the apes can receive no germs of disease from the visitors, and can be kept behind the screen in a higher temperature than is maintained in the portion of the building allotted to the spectators.

The new ape-house, for which there was much difficulty in finding a convenient site in the already crowded Gardens in the Regent's Park, is nearly square in shape, being about 70 feet in length and breadth. The principal floor is raised some 5 or 6 feet above the level of the ground, in order to secure the animals from the damp of the stiff clay soil upon which the house is built; and the chambers below the principal floor are devoted to the keeper's apartments and to feeding and heating purposes. On entering the spectators' portion, which occupies the north side of the building, by one of the flights of steps which ascend to the outside platform, the apes will be found occupying four large and roomy chambers on the south side. They are entirely separated from the spectators by the glass screen which runs across the building and corresponds to the windows of a fashionable shop in Regent Street. The spectators are on the outside of the screen and the objects to be inspected on the inside. They are in a good light because the interior is made bright and clear by skylights and by four large windows which occupy the south aspect of the building, while the spectators stand in a darker light. The screen has the further advantage that the animals cannot be improperly fed or unnecessarily stirred up with sticks and umbrellas, as is too often the case in the ordinary monkey-house. The apes themselves can hardly be said to be in cages, but live in large rooms some 16 feet square, which are fitted up with tree-branches, swings, and other contrivances for their amusement and exercise. All round these four rooms runs a narrow passage by which the keepers can gain access to any part of them. The temperature of the rooms for the animals is kept at from 80° to 85° F., while that of the portion of the house devoted to the spectators is usually from 10° to 15° less.

The apes that at present tenant the new ape-house are some seven or eight in number, and consist of chimpanzees, orangs and gibbons, representing all the three usually distinguished genera of the anthropoid apes. Besides these, one of the compartments is occupied by a small individual of the very curious proboscis monkey of Borneo (*Nasalis larvata*), one of the most peculiar forms of Old-World monkeys. This has always been found to be a most delicate animal in captivity, and very few specimens of it have ever reached Europe alive. When adult the proboscis monkey is rather a large animal, measuring, perhaps, some 30 inches in the length of its body, while the tail is nearly as long. It is remarkable for its large and elongated nose, of which, however, there is comparatively little appearance in the present young specimen. The young animal is also much more simple in coloration, being of a nearly uniform pale rufous above and grey below, while the adult is brightly and mostly distinctly coloured with yellow and chestnut. The proboscis monkey is an inhabitant of Borneo, and was made known to European science by Wurmb, the Dutch Governor of Batavia about 1780. Preserved specimens of it were first brought to Europe by Sir Stamford Raffles. Captain Stanley Flower received some living examples of it at the Ghizeh Gardens, Cairo, in 1899 (see *P.Z.S.*, 1899, p. 785), but they did not last long even in the favourable climate of Egypt.

THE HABITS OF THE LARVÆ AND ADULTS OF SIREX AND THALESSA.

WE have received from Mr. E. P. Stebbing, of Dehra Dun, India, an account of the habits of the larva of a Himalayan species of sawfly (Sirex) and its parasite, an ichneumon allied to Thalessa, of which the following is an epitome. The adult sawfly deposits its eggs in the wood of dead spruce-trees (*Picea morinda*). When hatched, the grubs bore horizontally into the wood for a short distance and then drive a tunnel vertically upwards or downwards after the manner of the European *S. augur*. The débris, after passing through the body of the grub, is so closely jammed in the tunnel that no holes are visible in the wood when sawn through. The pupa is formed at the end of the tunnel, where it lies naked at an angle to the axis of the stem at a variable distance from the exterior. In place of following the old, tortuous track of the grub—for several reasons a matter of difficulty—the adult insect cuts its way to the exterior by the nearest route, which, unlike that of the European species, is not, as a rule, at right angles to the larval tunnel. The mature insect never seems to have the slightest hesitation in determining the direct route to the outer world. It may be added that the larval state seems to last for several years, as grubs of different ages occur in the same trunk.

With regard to the parasitic ichneumon-fly allied to or identical with Thalessa, Mr. Stebbing is of opinion that it never makes the mistake of attacking wood in which pupæ of the sawfly Sirex are not entombed. As to the statement that the ichneumon-fly frequently dies from its ovipositor becoming inextricably fixed in the wood, he suggests that the insect, after depositing its last egg, dies in the position then assumed, as is certainly the case with many of the bark-boring beetles of the family Scolytidæ. As the ovipositor of the ichneumon does not exceed an inch and a half in length, while the spruce-bark may be fully an inch thick, it is considered that the Thalessa must have some means of fixing the position of the Sirex eggs and of the tunnels of the young grubs in the wood underlying the bark. Without such knowledge it would seem an impossibility for the parasite, the ovipositor of which appears of inadequate length for its task, to reach the larval tunnels. Numbers of dead ichneumons were observed in partially bored galleries, this being apparently due to the circumstance that the Sirex larvæ often travel with their parasites to such a depth in the trunk that the adults of the latter are unable to cut their way out. The numbers of the ichneumon are thus, involuntarily, kept down by the sawfly larvæ.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

MR. J. GRAHAM KERR, of Christ's College, Cambridge, has been appointed professor of natural history in the University of Glasgow, in succession to Prof. John Young, who has resigned.

THE Martell scholarship in naval architecture, offered for competition for the first time this year, has been awarded by the council of the Institution of Naval Architects to Mr. L. Woollard, of the Thames Ironworks, Blackwall. The scholarship is of the annual value of 50*l*. and is tenable for three years.

AN exhibit to illustrate the state of education in the British Empire will be sent by the Government to the Universal Exposition to be held in St. Louis in 1904. The official exhibits will be limited to education and the fine arts, but facilities will be afforded to trade and individual exhibitors to show products representing British industries.

THE last annual report of the Technical Instruction Committee recently presented to the Oxfordshire County Council supplies further evidence of the serious deficiency in the supply of secondary education in many parts of the country, which it is hoped the passing of the Education Bill, now before Parliament, will do much to remedy. The Committee again directs attention to the lack of secondary schools for girls throughout Oxfordshire, and for boys in the district between Chipping Norton and Bicester. In other directions favourable conditions mark the educational activity of the Committee; there has been a general improvement in the agricultural instruction in the rural centres, and good work has been done in supplementing the training of elementary school teachers.

IN accordance with the action of the Board of Trustees and the provisions of the will of the late Jonas G. Clark, the founder, the collegiate department of the Clark University, Worcester, Massachusetts, will be opened on October 1. There is to be no charge for tuition for the year ending 1903; for the next year the charge is to be twenty-five, and for the third year fifty dollars. After the third year, the charge per student in all classes will be at a rate to be fixed by the Board of Trustees. The preliminary announcement issued by the president of the college, Dr. Carroll D. Wright, shows, amongst other provisions, that mathematics will be taught as the groundwork of the college education and that sports will be permitted solely "for the development of physical and moral conditions." Special attention is in the future to be given to the "new" psychology, to economics and to sociology.

THE Volta Bureau of Washington, U.S.A., for the increase and diffusion of knowledge relating to the deaf, has issued its second international report of schools for the deaf. The data brought together from all parts of the world give a gratifying assurance that a marked improvement has taken place since

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1895, the date of the last report issued by the Bureau, in the provisions made in all countries for the education of this unfortunate class. Not only are the charitably disposed of European and American countries fully alive to the possibilities of assisting the deaf by suitable methods of instruction, but, as the report shows, there are schools in good working order in China, Japan, Algiers and other places not often associated with educational progress. It is interesting, too, to learn that upwards of thirty periodicals for the deaf are issued in Europe, and nearly sixty in America.

THE following list of successful candidates for Royal Exhibitions, National Scholarships and Free Studentships (science) has been issued by the Board of Education, South Kensington:—Royal Exhibitions: Charles Cook, Landport, Portsmouth; Gilmour E. Brown, Balloch, Dumbartonshire, N.B.; Charles J. Stewart, Fratton, Portsmouth; George H. Childs, Portsmouth; William Welch, Fratton, Portsmouth; Edward L. Macklin, Buckland, Portsmouth; Alfred Jones, Crewe. National Scholarships for Mechanics: Herbert G. Tisdall, Beeding, Sussex; Joseph J. Holloway, Saltley, Birmingham; George H. Andrews, Sheerness; John Alexander, Glasgow; Christopher J. Lees, Oldham; Robert Royds, Oldham. Free Studentships for Mechanics: William E. Gardner, Edgbaston, Birmingham; Harold Fowler, Urmston, Manchester; Leonard E. B. Pearse, London. National Scholarships for Physics: Ambrose E. Woodall, Swinton, Lancs.; James H. Brinkworth, Chippenham; Herbert Moss, Leeds; Thomas F. Connolly, St. Albans; A. Henderson McKenzie, Salford, Manchester. Free Studentships for Physics: Evan J. Evans, Llanelly; Wilfrid M. Hooton, Sutton Bridge, Lincs. National Scholarships for Chemistry: Alfred F. Joseph, London; Alexander McDonald, Middlesbrough; Donald F. Blyther, London; James M. Hird, South Woodford, Essex; Howard H. Morgan, Rhayader, Wales; John W. Birkby, Leeds. Free Studentship for Chemistry: Robert G. Kirkby, Whitstable. National Scholarships for Biology: William F. Collins, London; Thomas Southwell, Todmorden; Arthur E. Pratt, London. National Scholarships for Geology: George Haworth, Burnley; Thomas Dewhurst, Burnley.

SCIENTIFIC SERIAL.

American Journal of Science, August.—The terraces of the Westfield River, Mass., by W. M. Davis. Miller's theory of defending ledges gives a better explanation of these terraces than any other, the normal action of a meandering and swinging river sufficing to account for nearly all the details of terrace form.—Notes on the Cretaceous turtles, Toxochelys and Archelon, with a classification of the marine Testudinata, by G. R. Wieland.—The magnetic effect of electric displacement, by J. B. Whitehead, jun. After a short historical account and criticism of the previous work done in this field, new experiments are described, the net result of which is against the presence of the magnetic effect of electric displacement in an amount given by Maxwell's expression. Only once was a positive result obtained, and this is regarded as being liable to question.—Certain relations of plant growth to ionisation of the soil, by A. B. Plowman. The experiments described show that negative charges stimulate and positive charges paralyse the embryonic protoplasm of plants.—The demagnetising effects of electromagnetically compensated alternating currents, by Z. E. Crook. An experimental study of the effects of the alternating current on the magnetic properties of iron and steel, with special reference to the effect due to the current independently of that produced by the circular magnetism.—Nepheline and other syenites near Port Coldwell, Ontario, by A. P. Coleman.—The double ammonium phosphates in analysis, by M. Austin. A study of the best conditions for the determination of zinc and manganese as double ammonium phosphates.—On the electrical resistance of glass, quartz, mica, ebonite and gutta-percha, by O. N. Rood.

SOCIETIES AND ACADEMIES.

PARIS.

Academy of Sciences, August 11.—M. Bouquet de la Grye in the chair.—Reflection and refraction by a body undergoing a rapid translation, by M. J. Boussinesq.—On the law of pressures in cannon, by M. E. Vallier. As the expression originally proposed by the author necessitates complicated interpolations, an empirical formula of a simpler nature is suggested which is sufficiently exact.—On entire functions of finite order, by M. Ernst Lindelöf.—On the mode of formation of kathode and Röntgen rays, by M. Th. Tommasina. The study of the unipolar production of the X-rays by M. Jules Semenov led him to the conclusion that the antikathode gives off rays only if it carries an electric charge, and if connected to the earth it gives off practically no rays. Having regard to the theoretical importance of this fact, the author has submitted it to further experimental study. The following conclusions are stated:—The diffuse reflection of the anode flux alone is sufficient to give rise to kathode rays and to Röntgen rays; the phenomenon takes place even when the antikathode is connected to the earth, and the multiple reflection by the walls of a vacuum tube suffices to produce the partial transformation of the anode flux into both kathode and Röntgen rays.—Phenomena observed at Zi-Ka-Wei, China, during the Martinique eruption, by M. de Moidrey. A magnetic disturbance was observed, as at Paris and at Lyons, at a time corresponding with the explosion of Mont Pelée, together with an earth tremor which lasted about eight hours.—New contributions to the physiology of the leucocytes, by MM. H. Stassano and F. Billon.—Hæmoglobinuria of muscular origin, by MM. Jean Camus and P. Pagniez.—On the existence of a kinase in snake poison, by M. C. Delezenne. Snake poison contains a diastase possessing the same properties as enterokinase, or the microbial kinases. It has not yet been determined whether it is distinct from the poisonous principle of the snake venom.—The toxin of tetanus. Observations of the electrical resistance and of the index of refraction, by MM. Dongier and Lesage.—The distribution of the suprarenal bodies of the Plagiostomes, by M. Ed. Grynfeltt.—Observations on the germinative duration of seeds, by M. Jules Poisson. The seeds of plants growing in moist soils preserve their vitality longer than others provided that they do not leave their moist situation.—The verification of the law of barometric heights, by M. W. de Fonvielle.

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